THE NEW WAR SHIP MAINE.

Well Armed, Well Protected, and Swift.

Undoubtedly the Best Ship of Her Size in the World.

An Object Lesson in War-ship Building Worth the Attention of the Whole People—Considered as a Floating Fort and as a Fighter—Interesting Peculiarities—It Takes a Long Time to Build Even a Comparatively Small Ship of this Sort.

There was a time during the war of the rebellion when the chances that the South would succeed well nigh equalled the chances of Northern victory. A British ship had been overhauled by a Yankee cruiser, and the British lion had had his nose brushed by a flap of the wing of the American eagle. The friends of the slave owners in the tight little isle were rampant, and such was the effect of their anger that the thinking men of the North, who saw and realized the peril, nerved themselves for a conflict such as the American people had scarce dreamed of. British influence, British men and ships and guns, and British capital were all but ready to range up in line of battle on the side of the South. It makes the hearts of the younger generations of Americans, those who were too young then to know what was going on, thrill with a thirst for war to read that those in power at that time never for a moment thought of the policy of giving up the fight. Along with orders to diplomats to avert the danger, if possible, were written orders for more ships and more guns and more powder and shells. It was in those days that the axe was laid to the trunks of white oak trees in their native forests, and on the sixtieth day from the first stroke of the axe those trunks were sliding down well greased ways in the form of substantial war ships. Possibly England's aid might have won independence for the slave republic, but it would have made England sick before she was through with the job.

That was about thirty years ago, but the effect of that sudden burst of patriotic energy on the American people has not yet worn off. Unfortunately, while it was then of inestimable benefit to the nation, the effect has come to be at last almost as great a damage as it was then a blessing. It is impossible for a vast host of the American people to get rid of the idea that in the event of sudden war with a navy-owning nation the American inventive talent, backed by American pride and energy, would create a fleet and arm and man it and put it to sea while the enemy was filling her coal bunkers and hoisting in extra stores.

To obtain a thorough appreciation of the facts and conditions that now govern and must in future govern in a conflict between the United States and any navy-owning power, the patriotic readers of THE SUN can do no better than go over to Brooklyn and take a look at the first great sea fighter of Uncle Sam's new navy—the armored cruiser Maine—as she now stands unfinished on the ways.

Just about sixteen months ago, under orders from Naval Secretary Whitney, the work of building this ship was begun. From September, 1888, until the present time there has never been a work day when less than one hundred men were employed upon her, while for a good part of the time the force numbered from 300 to 500 and is now at the highest figure given. But she isn't a ship yet and may not be ready for launching even, let alone going into a fight, for nine months more. And yet she has been pushed with all the power of two Naval Secretaries ambitious to leave a fair fame behind them when going out of office.

A consideration of what the Maine is to be, and of what has been done on her after six months of labor, will help the reader to comprehend what sort of a task it is to build a modern navy fit to defend a country like the American republic.

Here is a ship which, as laid down, was designed to be the best armed, the best protected, and the swiftest ship of her inches afloat. That she was, after Uncle Sam's experts had gone over the British-drawn plans, properly designed to fill that bill, is not denied by any one who considers the date on which her plans were completed. The fact that better ships have since been planned in no way detracts from her merits when her date is considered. No ship of her size had been planned, up to the time her plans were given out to the builders, that could stand up before her for an hour.

GENERAL OUTLINE AND DIMENSIONS.

It is not such a difficult matter for even the reader not familiar with the details of ship-building to understand the good and the bad points about this big fighter if he gave the patience to consider them briefly.

In the printed reports which Uncle Sam's sharps of the Construction Department send through the President to Congress is found this description of the new ship:

General dimensions—Length between perpendiculars, 310 feet; breadth, extreme, 57 feet; mean draught, 21⅝ feet; displacement to above draught, 6,648 tons; indicated horse power, 8,750.

Translated, this means that the new ship, as she appears in THE SUN's admirable picture of her afloat at sea, is about 330 feet long, that she is 57 feet wide in the broadest part, that she can swim comfortably in a channel 24 feet deep, and that, when lying in still, smooth water her main deck, on the top of the black hull, as shown in the cut, is not to exceed 14 feet above the water, while, in all probability, when she has her crew and stores all on board, that deck will be 12 feet or less above the water. To an expert in such matters the statement of her dimensions, with her displacement, conveys an idea of her form as well as size. Of her form it may be said that it is very pleasing to the eye under water, with the exception of one feature, and above water it is a cross between a coal barge and a Sound steamer. It has a series of right angled and round houses built on the deck, while, instead of the graceful overhanging counter aft and the clipper or swan-neck stem forward, her nose is snubbed and her stern carries a bustle that is hung too low for beauty. Could the ship be put down in Broadway opposite the Post Office, people on her upper deck could look into the third story windows easily. If her nose was opposite the Astor House entrance her stern would be close up to Park place, and as to getting up and down town past her, the people would find the space between her and the buildings very narrow.

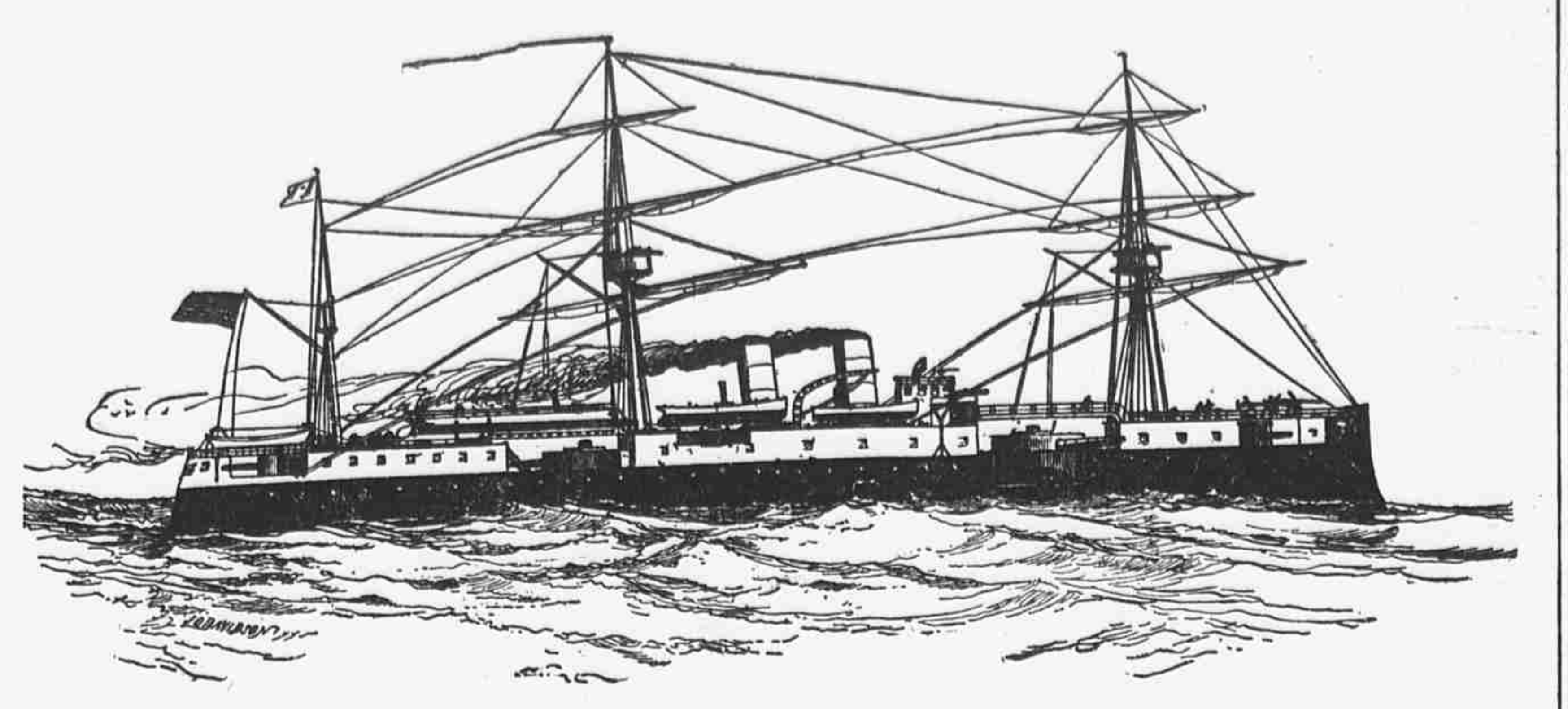
Standing thus, it would be very easy to see the feature of her bottom that is not pleasing to look at. She carries what are known as bilge keels. The bilges are the rounded angles of the hull where the plates of the bottom turn up to become the side walls. Placed here and projecting from the hull like planks bolted edgeways to it are two webs, one on each bilge, 2 feet wide and 160 feet long. These bilge keels will keep the ship from rolling so badly as she would do without them, the building sharps think. They will certainly interfere a good deal with her speed, and will make it more difficult to turn around when in a hurry to face the enemy.

The Maine was designed in the days (the last of them) when naval constructors still thought it necessary to furnish a war ship with sails to help her along when the wind was fair. As the cut shows, the Maine has three masts, on two of which yards are crossed. This is called a bark rig. The sails won't pull much, and the yards will be in the way if she ever gets into a fight, but before the fight comes the masts and yards will serve admirably to spread no end of flaming, flapping bunting at the World's Fair entertainments, and on occasion may also spread some canvas which will be more or less white on the masts at the ends of the ship and more or less black near the smokestacks.

The masts will serve one other purpose, and a good one in time of battle. In such a time all the yards and the upper masts would be sent down on deck, leaving only the thick lower masts standing. Near the top of two of these masts the reader can see what look like big cups, and that is in fact is what they are. The cups are made of steel, and each is big enough to hold nearly a dozen men and two Gatling guns, the murderous weapons that are made to fire 1,000 lead bullets a minute to an effective range of 1,000 yards and more.

THE HULL.

Having thus obtained a general idea of the ship as she would appear out of water and when afloat at sea, it is now interesting to consider the hull more in detail. As in every other ship, there is a keel and frames that rise from it like ribs from a backbone. The keel is made of plates of steel, and the frames are plates of a slightly different sort, but all are set edgeways, of course, to the direction of the strains they have to bear, and stiffened and strengthened by angle irons bolted along their edges. The keel plates are an inch thick and a yard wide. That is the thickest and strongest set of plate used in the ship, save the outer plates that go immediately under the keel, or the plates that would rest on the rocks should she happen to go aground. These plates are an inch and a quarter thick. Of course no reference is made here to the armor plates for deflecting the shot of the enemy. From an inch and a quarter the plates run down to less than a half inch in thickness in some places, and yet so admirably are these plates placed to support each other that were some monster crane to pick the Maine up by the stem and the sternpost she would hang there in mid-air stiffer than any bridge truss ever built.



By means of partitions made of plates of various thicknesses, according to the possible strains they will have to bear, the hull is divided into 174 water-tight compartments. These compartments are located chiefly below the water line, but they are especially numerous in the parts of the hull likely to be opened up by the shot of an enemy.

But while these partition walls add to the stiffness as well as safety of the hull, they sadly interfere with the ventilation, and if that were defective the crew would suffer. With a sick crew the best ship afloat would be at the mercy of a second-rate cruiser, and that is a point about the efficiency of a war ship that has been terribly neglected in some of the battle ships of the other side of the Atlantic. In the Maine, however, there is a very elaborate system of skylights, side lights, and cowls to direct the wind through all sorts of portholes. This serves above the water line, but it is not all, for a well-devised system of fans and ducts will take the breath out of the bilge water to the uttermost corner of the smallest compartment.

Probably the most interesting feature of the hull, considering that she is a sea fighter, is the stem. It is a snub-nosed stem, because she is expected to ram the enemy should opportunity offer. The stem is a steel casting, and the way it is braced and supported by the frames and plates behind it will be found interesting by any one who will take the trouble to go over to the navy yard and look at it before it is covered in out of sight. Another interesting feature of the hull does not yet appear to the visitor, but it will make the old-fashioned sailor laugh to be told that when the Maine gets up anchor the steam capstan not only snakes the anchors up to the hawse-pipes, but it will take them right in through the pipes. There will be no climbing down over the bows to hook on tackles by which to lift the anchor up on the forecastle deck. If now some bright genius will devise a plan for holystoning the deck and cleaning bright work naval Jack will try to worry along with the shaving of his plug tobacco and the eating of lob scouse in the old way. There will be very little sailor work of any other sort left for him.

THE ARMOR PROTECTION.

The Maine is called an armored cruiser. In the nomenclature used in England she would be called a swift little battle ship. By this is meant that she is so built that she has thick steel plates placed where they will prevent any but the the heaviest shot from piercing vital parts of the ship. By vital parts one means the engine and boiler rooms, the men who work the most important guns of the ship, and the room in which her commanding officer will stand when taking her into battle. It is wholly impossible to build a ship that will be wholly impervious to the shot even of a modern eight-inch rifle at fighting range. So heavy would be the armor that she could carry neither guns nor engines of any value. So the naval construction sharps have endeavored to put on the armor where it is most needed, leaving the rest of the ship to be shot to pieces, hoping that the multitude of small compartments placed there would save her not only from sinking, but from losing her balance or trim, and so canting over far enough to destroy her. They have demonstrated the accuracy of their plans to the queen's taste on paper. But if only England and France could be set up against each other over the Newfoundland fisheries just long enough to let the Collingwood or the Imperieuse get a good half day's fight (it might not last a half hour) with the Morceau or the Hoche, or the Trafalgar attack the Dupuy de Lome, it would save Uncle Sam a heap of money, for then we should know what the modern battle ship is good for.

However, here is the Maine, with all the advantages and defects of the best British battle ships. A glance at the cut shows that the Maine carries two turrets on her main deck. These turrets carry her most powerful guns. They are placed one forward on the starboard side and one aft to port. The turrets project slightly out over the sides of the ship, being supported by bulges in the side that are called sponsons. The turrets contain two guns each. They can be turned about so that the guns can be fired over wide arcs of the horizon. Having the best guns of the ship in them, these guns and the men who load and fire them must be protected at all hazards from the enemy's projectiles. That is the theory, and it is a pretty good one. The steel armor on these turrets will be 10½ inches thick. Backing it up will be a layer of wood 8 inches thick, something that will strengthen the thick steel plates a good deal. Back of the wood are two layers of steel plates each an inch thick, and these are backed by a web of angle iron and plates placed edgewise. At a range of 1,000 yards, and that according to good authority would be the distance between two sea fighters in a duel, a 12-inch shell would have to strike the turret a fair blow to get through, but it is likely that a 10-inch shell would pass through if the blow were perfectly fair. The chances of a fair blow are not so very great, for the turrets are not such monster targets that a gunner could hit them with a big gun on a rolling ship, save by accident. The Maine turrets offer very excellent protection to the men working the big guns. They also protect the gun carriages, but, as the picture shows, the muzzles of the guns stick out, say twelve or fifteen feet beyond the turrets, and are as likely to be hit as they.

Having provided for the fighting men, the construction sharp next thinks of the engine room. This is pretty well below the water line, and a shell could scarcely get to it through the water, but as the ship rolled a shell might catch her where, when she rolled back, the water would pour in in a flood. Meantime the shell might burst in the upper part of the engine room and give the engineers and firemen the headache. To save the machinery and the men who work it, the constructor builds a wall of steel along the side of the ship that extends forward and aft far enough to reach beyond the engine room. This wall in the Maine extends down four feet below the water line. It would be a rare thing for the ship to roll over so far as to bring the bottom of this wall above the water long enough for a shot to catch her. Of course, she will sometimes do it, particularly on the high seas, but she must take her chances—one cannot armor the whole side. The wall also extends three feet above the water line. If a shot strikes above this wall, it will make a hole, but save in the open sea and with a good swell on, the water would not run in through the hole. Here, again, she must take her chances.

The wall is 180 feet long, and is known as the armor belt. The Maine is sometimes called a belted cruiser. In the Maine the belt is 11⅝ inches thick for most of its width, and is backed by the eight-inch wooden wall and the two-inch steel wall and the angle irons and edge plates, as is the turret armor. This belt, however, when a foot below the water line, begins to taper like a knife blade, so that at the bottom it is but six inches thick. Because the ship would have to face the enemy, it is necessary to carry the side walls across the ship at the forward end. This is done by building a V-shaped bulkhead six inches thick and well backed. Being V-shaped would be of an advantage, unless the shot were received quartering over the bow, because it would tend to deflect the projectile received broadside, or end on.

To get an idea of how high this armor belt comes on the ship the reader can draw a pencil line parallel with the water line, so as to cut off the lower one-fourth of the black side of the ship, as shown in the big picture. He will then see that there is a wide space between the deck on which the turret rests and the top of the armor belt. Were there no other protection, the enemy would need only to aim for the hull beneath the turret to destroy the machinery that operates the turret. To prevent such a disaster as this the constructor builds a steel redoubt about the machinery. The bottom of the redoubt is below the top of the armor belt. The top of the redoubt rises up and encloses the bottom of the turret. The redoubt armor is 10½ inches thick, and is backed as the other armor plates are.

Then there is the room for the Captain and his assistants, including the man at the wheel. The room is called the conning tower. It is the turret-shaped structure just abaft and over the forward turret, as shown in the picture. It is elliptical in shape, and has ten-inch armor well backed. Last of all is the connecting link between the conning tower and the rest of the ship. Speaking tubes, signal wires, and other devices for controlling the ship run down through the floor of the conning tower and through a steel tube 4½ inches thick below that. The eggs are all in one basket, but it's a mighty good basket. A six-inch shell fired at a range of 1,000 yards would scarce destroy it, but a fair blow from a larger shell would end the battle—the ship would become uncontrollable.

Although scarcely to be called armor, the Maine is provided with further protection from the enemy's shot in the shape of an oval deck worked from the plane of the top of the armor belt, slanting down and aft, and terminating at the sternpost well below the water line. Where this deck joins the sternpost it is two inches thick; above the water line four inches. On account of the small angle at which a shot will necessarily strike this sloping deck, it will afford even better protection than the vertical six-inch wall forward. The deck below the water line forward is made of two thicknesses of inch steel, in order to strengthen the bow for ramming.

CONSIDERED AS A FIGHTER.

The description of the Maine so far considers her simply as a floating fort. It is a mighty good fort for its size; one thing taken with another, better than anything afloat. It is admitted that 9-inch shells would soon knock the stuffing out of it if it lay still on the water while the enemy worked her breechloaders. What the people want to know is what the crew of the Maine would be doing meantime. It is fair to presume that they would be making the enemy think that a sulphur and brimstone place of torment was afloat, and that they (the enemy) were somewhere near the vortex. Whatever criticisms may be made about her armor, the guns of the Maine are magnificent.

First of all she will have four ten-inch rifles—two in each turret. These guns have not been made yet, but the gun makers at the Washington Navy Yard are at work on them, and one of that size for another ship has been completed and tested. A ten-inch rifle is a rifle with a bore ten inches in diameter. The length of the gun is 329 inches and the length of the bore 310. It weighs a little over 24 tons. A charge of 250 pounds of powder hurls a steel bolt weighing 500 pounds from the gun with a velocity of 2,000 feet per second. The effective range of this gun is about nine miles. She could drop a shell on the deck of an enemy that was hull down beyond the horizon. At a range of 1,000 yards the projectile would pierce the armor of anything afloat, save perhaps the turrets and waterline belts of half a dozen of the greatest ships. So far as the ships of the Maine's size is concerned, there is not one that has the armor to resist these projectiles. In actual battle these guns could be fired seven to eight times each in half an hour. They could drive a shell into the hull of the enemy every minute, if the gunners had the requisite skill; but, allowing for errors in judgment, it is fair to suppose that in a sea duel she would strike the enemy with her big shells once in two minutes. A sea duel of that sort would be a mighty interesting spectacle.

In addition to the ten-inch guns the Maine carries six of six-inch calibre. They are mounted in the little turret-shaped structures shown in the picture of the ship. These guns are 196 inches long, weigh 4.9 tons, take a charge of 50 pounds of powder, and a shell of 100 pounds. They lift the shell over five miles of water or drive it through 12.5 inches of wrought iron at the muzzle. It is certain that at least two of the six could be trained to help the four ten-inch guns—in almost all situations three of them would be brought into action. Since these guns can be worked more than twice as fast as the big ones, the enemy would find hundred-pound shells coming in at a rate that would add to his warmth and to the interest of the spectacle—say once in 50 seconds after allowing for misses.

An examination of the picture of the ship will show a number of little guns mounted conspicuously about the upper works and in the two little masthead ports. These guns are known as the secondary battery, because they are small and chiefly valuable in repelling the attack of an enemy's torpedo boat. Nevertheless, these guns would be found of the greatest service, exposed as they are, in a fight with a great ship, for the reason that every ship exposes her men to the fire of an enemy to a greater or less extent, while even the men working the great guns in nearly all the most famous of the battle ships are exposed. Under well-directed fire from the secondary battery of the Maine the guns of these ships would be disabled for want of men to handle them. This is not a guess, for one naval fight during the war between Chili and Peru demonstrated it. The Huascar surrendered because the crews were swept from the guns. It is not uninteresting to note here that Lord Nelson was killed by a musket ball fired from the mizzen top of an enemy's ship.

The secondary battery of the Maine consists of four cannon called rapid-fire of a bore of 2¼ inches, four 1.85-inch rapid-fire guns, four 1.85-inch revolving cannon, nine 1.36-inch revolving cannon, and four Gatlings. The rapid-fire guns are so called because they can be fired rapidly. The entire charge is made up into a metal cartridge, which is put by hand into the breech of the gun and then fired, very much as a single-shot sporting rifle is fired. The revolving cannon are loaded and fired by machinery. The rapid-fire gun can be fired from five to ten times a minute until it gets too hot to fire. The revolving cannon is a still more rapid gun.

A description of the largest of the Maine's rapid-fire guns will serve for the rest. It is a slender tube of steel 103¼ inches long. It weighs 810 pounds. A charge of 1 pound 15 ounces of powder (smokeless) drives a six-pound steel bolt from the muzzle at a velocity of 1,870 feet per second. This bolt would penetrate 3.26 inches of wrought iron at a distance of 1,000 yards. In other words, it would go clear through the hull of a ship where there is no armor. Plunged into the hull of the ordinary torpedo boat even at an angle, it would surely go through deck and bottom. In other words, the men on a modern ship of war will be in greater danger from rapid-fire guns than they formerly were from muskets when the wooden ships fought yardarm to yardarm.

There is one thing about these six-pounder cannon that is deserving of more attention than it has received. There are two cases on record in England where great guns have been ruined by the little projectiles. The blow which a six-pound shell will give an ordinary great gun at a range of 1,000 yards is sufficient to cut a gash at least two inches deep into it, and that is a gash that no great gun can stand. Among the possibilities of a battle between modern ships is this, that the greater ship should be whipped by the small guns of the weaker one. In the old days the result of a fight between a three-decker and a two-decker was a foregone conclusion. In these days the possibilities of lucky shots saving the day are much greater. That a brave and able commander, with a skilled crew of gunners, should successfully carry the Maine through a fight with anything afloat would not necessarily be a matter of luck either.

The Gatlings are useful, of course, only against exposed bodies of men, but the shower of lead that they can throw has given them the name of murdering guns. They will discharge 1,000 shots per minute, if there is any hurry about the matter, and where the conditions enabled the gunner to see where his bullets struck, he would be absolutely certain of hitting his target.

The Maine is fitted also as a torpedo boat, having seven tubes or guns from which torpedoes may be fired. Three of these are located so as to send the torpedo out below the water line, and four are located on the berth deck above the water line, and will start the torpedoes on the surface of the water. The modern torpedo is a cigar-shaped tube of steel or bronze, from 15 to 18 feet long and from 14 to 18 inches in diameter. It is placed in a tube, which it fits as a projectile fits a gun, and behind it is placed a cartridge of powder or compressed air. Powder will be employed on the Maine. The charge of powder is small and slow burning, and serves the purpose admirably. The torpedo carries anywhere from 75 to 250 pounds of gun cotton, and when it strikes the ship there is on board of her, as Artemus Ward might have said, first a thrill of wild astonishment, then she scatters. The torpedo travels at the rate of 30 miles an hour for a distance of a quarter of a mile. If the Maine got within 400 yards of an enemy she would shoot torpedoes at her.

Another part of her means of offence is the torpedo boat. The Maine will carry two steam launches fitted with the most powerful engines so that they will travel at a remarkable speed. Under some circumstances it would be perfectly feasible to drop these little hornets into the water and send them against an enemy's ship while the Maine was blazing away at her with the big ten-inch rifles. In fact, the smoke of the big guns might serve as an admirable cover for a torpedo boat attack. It is likely that the call for boarders, in the old days, will be replaced by the call for the crews of the torpedo boats in the modern sea duel.

TO DRIVE THE SHIP.

The Maine will be driven by twin three-bladed screws fifteen feet in diameter, turned by triple expansion engines. A bulkhead divides the engine room, so that each engine is in a water-tight compartment by itself. The cylinders are 35½, 57, and 88 inches in diameter respectively, and the stroke is 36 inches. There are eight cylindrical return tubular boilers 14 feet 8 inches in diameter and 10 feet long, and each has three furnaces. The total grate surface is 552 square feet. Instead of sealing up the engine rooms and pumping air into them, the air to force the draught, pipes from the blowers will lead into the furnaces. The blowers will be able to furnish 26,000 cubic feet per minute to the furnaces, and if this doesn't make a fire to curl the grate bars nothing will. It is calculated that this combination of boiler, coal, and wind will develop 8,750 horse power in the engines and a speed of seventeen knots an hour in the ship during a run of sixty-eight miles, and that's the important consideration for the owners.

Whether she will develop this speed or not cannot be known until she has her trial, but the taxpayers have no occasion to worry meantime. The officers about the navy yard say to their friends privately that the work on the Maine is all right, and that is good enough news for the taxpayer. The ships designed and built under the administration of Secretary Whitney have in every case done better with each trial than they did in the trial before. Secretary Tracy, whose management of the Navy Department is about the only work of the Harrison Administration to which the Republican party will point with pride, is not going to leave anything undone which will add to his reputation. The most important part of the work on the Maine will be credited to him, and he knows it. The Maine will cover her seventeen knots an hour.

Seventeen knots is a remarkable speed for a sea fighter as distinguished from an unarmored cruiser. Not only can she steam faster than anything of her size, but she is about equal in speed to the best battle ship afloat, say the British Sanspareil, a sister of the Victoria. On Sept. 20, 1888, the Sanspareil had a trial of four hours under natural draught, and covered sixteen knots on the average during a four-hours' run. On the 22d, with a forced draught, she covered 17.75 knots. The Trafalgar, another of England's most powerful ships, in eight runs over the measured mile on June 26, 1889, was able to run at the speed of 16.21 knots an hour only. In the French navy the Formidable averaged 16.2 in a four-hours' run last March. The Le auto, a 15,000-ton monster of the Italian navy, has covered 18.38 knots in an hour. The most interesting fact in connection with speed trials of foreign naval ships is that the ships have never done so well in commission as they did on their trial trips, while in the great North American republic the naval ships so far put in commission have done better work than they did on the trial trip.

Another important feature of the Maine is her coal capacity. She can take in, all told, 822 tons, and this will enable her to steam at ten knots an hour for 4,250 miles. She could not go to Europe and make an extended campaign on that amount of coal, but she can patrol the American coast.

HER CREW.

The Maine will carry 300 men. She is planned for a flag ship, and if she were now in commission the gray-haired Admirals of the navy would be in a terrible stew until it was determined which one should have her. The cabins for the Admiral and the Captain of the ship are in the superstructure aft. The other officers of the ship are provided with a dining room and a sitting room and eighteen staterooms. The staterooms open off the sitting room. The dining room is 17x33 feet large, the size being worth mentioning because it is so commodious. The tall, white-haired sailors of the navy, who are all hump-shouldered because in the old ships they always had to walk bent over to avoid bumping their heads on the deck beams when 'tween decks, will never feel at home on the Maine. The head room on the berth deck is seven feet ten inches. When Jack lines up for inspection on Sunday morning with a black eye, the old yarn about bumping himself on a hammock hook won't work.

THE PRESENT CONDITION OF THE MAINE.

"How much of the work to be done before she is ready to launch is now completed?" was asked of one of the constructors.

"About four-fifths."

"When do you expect to launch her?"

"Next fall some time. If we could get the material as fast as we needed it and the Secretary desired to push the work, she might be launched as early as July 4, but there is no present hope of getting material fast enough to warrant the expectation of launching her before Oct. 1."

The ship is an interesting spectacle as she now stands on the blocks in the navy yard. She looks like a ship, and to the eyes of one accustomed to ships she looks like a mighty powerful ship. To an ordinary observer she looks small, because she is so beautifully proportioned that the eye is deceived. If the stranger will go on board, however, and go down inside the hull amidships, and will look toward either end, the stem and the stern post will seem to be a far cry away.

The chief recent delay has been with the material for the tubes or tunnels through which the wheel shafts are to run. The whole after end of the ship is much behind the bow. The delay is with Carnegie's works. The trouble is that the capacity of the American steel-producing works where metal of the proper quality can be made is not large enough to turn out these plates as fast as wanted. From the day the first plate of the keel was stretched along the blocks to this time there have been continuous and often vexatious delays, and yet during the sixteen months the Maine has been in hand no other armorclad was building in the country. There were a few cruisers building, it is true. Supposing there was a sudden need of a few armorclads to keep a blockading fleet from the Sandy Hook bar, where would the steel to make them of come from? If it takes two years to launch a little armorclad, and the steel producing works of the nation are crowded to the wall to turn out the material, how long will it take to build enough war ships to protect a coast line 13,000 miles long, and twenty important seaports? And if a navy is worth having, how long ought the development of plants fit to turn out the material and the ship be delayed?

The American people will some day this year be invited to assemble at the Brooklyn Navy Yard to see the new ship launched. The Secretary of the Navy and a great many officers of the navy and the former Secretary of the Navy and a great many other distinguished citizens will go there and take positions where the undistinguished citizens can see them. There will be a great bustling among ship carpenters and sailors, and a great thumping of sledges and battering rams on the blocks under her keel, and everybody will draw short breaths and stand on tiptoe, and pretty soon some one will say "There she goes!" and a bottle of wine will be smashed over the ship's bow by some very beautiful young lady, and every steam whistle will bellow, and no end of guns will boom, and everybody will shout and whoop, and the big ship will slide down into the sparkling waters of the Wallabout, and then everybody will go off and splice the main brace, after which the Secretary of the Navy will make a gracious speech, and the ex-Secretary a modest speech, and the distinguished citizens grandiloquent speeches, and Chauncey Depew a very funny one, and THE SUN will tell everybody all about it next day.

Then the hard-headed taxpayer will consider the case, and having looked the ship and the bill over carefully he will conclude:

That she is a mighty fine ship.
That $3,000,000, her cost, is a heap of money.
That she is worth the heap.
That it is good policy to keep on building naval ships in the navy yards as well as in private yards by contract.
That we are a great nation.
Let the eagle scream!

TWO GRAVES IN LONELY GULCH.

An Affecting Story Told by a Former Prospector in the Colorado Mountains.

From the Leadville Democrat.

"I noticed a few weeks ago, in your paper, a description of lonely graves in the mountains of Colorado," remarked a gentleman to the writer Monday. "At the time I read it I was travelling in the southern portion of the State, and it recalled to mind two lonely graves that I know of, which lie hidden in the recesses of the mountain in Routt county. Of course, there is a history attached to them, and if you have time I will spin the yarn.

"In the year 1872 I was prospecting in the neighborhood of Hans' Peak and the Rabbit Ear Range, and at that time but very little was known of the rich silver veins which traversed that portion of the State. There were other prospectors in the country, and the few of us felt elated over the finding of several leads that contained gray copper, and we went to work with a will to open the veins up. You have no idea of the many difficulties that one has to contend with in a new country and the privations one has to suffer. But the excitement attending the life of a prospector, that some day he will strike it and be recompensed for all his trouble buoys him up, and he endures all hardships and privations with good grace. The country at that time was well stocked with game, and we never had any difficulty in procuring all the fresh meat that was needed. I had built a rude cabin at the head of a small gulch and not far from my claims. It was a lovely spot, with groves of quaking aspen trees surrounding the cabin, and about fifty yards from the door stood two majestic pines that I named the sentinels.

"One day when I returned from work I found two strangers, man and wife, had taken possession of my house, and was a little astonished at first to see a woman in that part of the country. They asked permission to remain there for a few days, and it was readily granted. I was indeed glad to see strange faces, and welcomed them to my humble abode. From the very first I noticed that the woman was not strong, and this aroused my curiosity, as I could not figure out why a woman in delicate health should be in such a wild part of the country. She had been a very pretty woman once, but consumption, the malady from which she was suffering, had robbed her of most of her beauty. She had a sweet temper, that won for her friends wherever she went. She was also perfectly resigned to the inevitable, and knew that her pilgrimage on earth was short, but she bore up with the greatest fortitude.

"They had been at the cabin about a week, and everything about it had been changed. Alice—that was the woman's name—had remodelled the place, and all things showed the touch of a woman's hand. Well, one evening after supper, we were sitting in front of the cabin, enjoying the beauties of an August evening, when the husband, Alfred, told me what brought him to that section of Colorado. His story was brief. He stated that after being married in the East for two years, his wife had shown unmistakable signs of consumption, and the doctors had advised him to take her to California, and, if possible, to go across the plains by wagon, as he would find that journeying that way she would gain strength. They found a party of emigrants at a small town in Nebraska, who were going to the coast and engaged their passage. For the first week out Alice gained strength, but one evening she caught cold, and the malady increased with awful rapidity. When Laramie City was reached she could go no further, and the trip had to be abandoned. At that town they were advised to go go into the mountains, as the fresh air laden with the perfume of pine was beneficial to consumptives. A wagon was procured that took them to North Park, and by easy stages on horseback they had reached my cabin. It was by the merest chance they found it, and I was glad they did.

"A month passed, the happiest in my life, but I saw that gradually Alice was sinking, and that she would never leave the gulch. Her husband noticed the change and was inconsolable. He administered to her every want, which were not many, and realized what an awful change it would be when she was taken from him. One night the end came. She called me into the little room that I had partitioned off for their use, and, in a feeble voice thanked me for all my kindness to her, and hoped that when my time came to cross the mysterious river she would meet me in that land where sorrow is unknown. She told Alfred that it was hard to leave him, but that he must be strong and bear the affliction that a Wise Master had in His just wisdom sent him to carry, and that all things were done for the best. It was a scene the like of which I wish never to witness again, the feeble girl, full of hope for the future, bidding good-by to the man she loved, and the strong, powerful man, bowed down with grief at the thought of losing her who was the only tie which bound him to this world. The end came: with her head pillowed on the breast of her protector, her spirit winged its flight to eternal rest. Underneath one of the pine trees we laid her, and carved her name and the date of her death on its trunk.

"Alfred was broken hearted, and wandered about the hills like one lost. He had no purpose in life, so I used to ask him to do the chores about the place to engage his mind with something. One day I asked him to go out and kill a deer, as we were out of meat. Whether he committed suicide or whether the gun was accidentally discharged I shall never know, but I found him the following day about two miles from the cabin with a bullet through his brain. The gun could have been accidentally discharged, as I found the body in a small thicket of willows, and while passing through it the hammer might have caught on a twig, and so discharged the gun.

"I got assistance and carried him to the cabin, and he was buried alongside of his beloved wife, at the foot of the other pine tree, and today the place is known as 'Lonely Gulch.'

"After the tragic death of Alfred, I could remain no longer in the place, so I left. I returned to it a few years ago, and looked upon the two lonely graves and thought of the few happy days that the three of us spent there in the August of 1872. By reading the article on lonely graves, I thought the first time I came to Leadville that I would tell you the story about the two graves in 'Lonely Gulch.' Few people know the history of those that lie sleeping in that little ravine in Routt county. Now you know it, and it will, in a measure, clear up any mystery that it may have been woven around them by those who may have happened to stumble against them."

WISDOM OF THE WITS.

Like the King's Clown, They Are Philosophers of the First Class.

The family stovepipe was never meant for a pipe of peace.—*Binghamton Republican.*

When a young woman powders her hair and wears a cap it will be rather strange if there is not a bang somewhere in the vicinity.—*Washington Star.*

Tell a woman that she looks fresh and she will smile all over. Tell a man the same thing and if he doesn't kick you it is either because he has corns or daresn't.—*Burlington Free Press.*

It's cool and warm and warm and cool,
There's calm and then there's bluster,
So that we don't know which to wear,
An overcoat or duster.
—*Washington Star.*

Teacher (who has had to tell Johnny nearly all of his lesson)—What did I tell you a shepherd is?

Johnny—One who tends to sheep.

Teacher—Correct. Now see if you can tell me what a coward is.

Johnny (hopefully)—One who tends to cows.—*Philadelphia Times.*

Artist—Vanderbilt has bought "The Grand Canal of Venice" for $100,000.

Old Gent—Is that so? I didn't know he handled anything but railroads.—*Washington Star.*

"Well, have you farmers had rain enough?" he queried of a farmer on the market Saturday.

"Hardly," was the reply.

"You haven't? Why, it has rained almost every day for two months!"

"Yes, I know. I'm running a skiff around the farm now, but if we had a little more rain I think I could put on a flatboat and carry bigger loads!"—*Detroit Free Press.*

It takes a man a lifetime to establish a character noted for charity, truthfulness, and perfect honesty. He can become notorious as a thief in twenty-four hours.—*New Orleans Picayune.*

There are only three one-legged members of the House this year: Henderson of Iowa, Stern of Kentucky, and Boothman of Ohio, but there are a great many members of one idea.—*Jewish Messenger.*

In times like these the doctor skilled
His hopes of curing offers,
His pockets are with money filled
Drawn from the public coughers.
—*Washington Capital.*

Harry—And, dearest, do you think of me all the day long?

Dearest—I did, Harry, but the days are getting longer now, and, of course—well, you know that that must make some difference.—*Boston Transcript.*

Resolutions are like messenger boys. They are the easiest things imaginable to pass.—*Boston Transcript.*

"What is your idea of a gentleman, Yellowly?"

"A true gentleman always laughs at the joke of a story and never says that he heard it before."—*Boston Courier.*

Wickwire—What is the reason Mudge does not speak to you any more? Have you offended him in any way?

Yabsley—Yes. I claimed that he had nothing but a common cold.—*Terre Haute Express.*

There are two reasons why some people don't mind their own business. One is that they haven't any mind; the other, that they haven't any business.—*Harvard Lampoon.*

Doctor (feeling the patient's pulse)—Um, um, I think I shall have to bleed you.

Patient (feebly)—Can't you wait, Doctor, till you send in your bill?—*Washington Star.*

Physician—Madam, how did your husband happen to drink so many swallows of carbolic acid before he found out what it was?

Wife of Patient—He was hardly awake and was reaching for his cough balsam. He got hold of the wrong bottle.

Physician—Has he ever had any experience of this kind before?

Wife—Never, though I once heard him say, when he lived in New Jersey——"

Physician—Is your husband from New Jersey? Madam, he will recover.—*Chicago Tribune.*

Mrs. Montmorency-Smythe—No, Mrs. Raggles, we never have any family jars in our house. Whenever a difficulty occurs between my husband and me Mr. Smythe always takes his hat and goes out.

Mrs. De Beresford-Raggles—Ah, yes; I've often wondered why Mr. Smythe spent so much time on the streets.—*Boston Post.*

After the railroad accident. Husband (extricating himself from the wreck)—Emily, thank God you are safe! Heavens! isn't this awful? Wife—Dreadful! Hear the poor people groan! Dearest?

Husband—What is it, love?

Wife—Is my hat on straight?—*Burlington Free Press.*

"By thunder, old fellow, what has happened to you that you smile so all the time? What, is it so good?"

"Oh, nothing at all, but you see one never knows nowadays but somebody may be photographing him."—*Fliegende Blaetter.*

Landlady—Mercy! Something dreadful's going to happen. For thirteen to dine at a table is a bad sign, you know.

Fogg—(reassuringly)—Ordinarily, yes; but then, you know, in our house one can hardly call it dining.—*Boston Transcript.*

Yabsley—Wickwire, we have just been discussing the question whether married women really do go through their husbands' pockets. Does yours?"

Wickwire—Of course I can only give you my own experience, and that is she don't. When she gets to the bottom of them she stops.—*Terre Haute Express.*

A million little microbes
Were dancing in the sun;
There came a bitter killing frost,
And then there was but one.

This lonely little microbe
Pouted his little lip,
And said, "I wish I, too, was dead,
Because I've lost my grip!"
—*Boston Transcript.*

The dear, delightful Vassar girl
No longer stops her head
With wads of tolu chewing gum—
She has the grip instead.
—*Washington Star.*

A facetious Bostonian, who has occasion to send postal cards to a certain small city where there is a Postmistress, writes this legend on the top of the card: "Please forward after perusal."—*Boston Herald.*

The Snow Shovel Trust seems to have leased quarters outside the breastworks for the year 1890.—*Washington Post.*

The man who thinks quick and speaks slow will be very apt to get along in the world safely.—*New Orleans Picayune.*

At any rate the mortality from influenza is not so great as that from the elixir of life a few months ago.—*Milwaukee Sentinel.*

"What, ho! Bring forth my trusty steed
And eke my sword and shield;
I'll volt into the cell and speed
To yon excited field!"

Arc to the sounds of dole and woe,
He never more came ohm;
By Wheatstone's Bridge they laid him low,
The golden stair he coulomb.
—*Life.*

While passing a farm in Virginia the figure of an elderly man, whose attire was noticeable for the utter absence of any decorative efforts, was to be seen leaning against the fence.

"How are you getting along down here?"

"Jes gettin' 'long; no mo'h."

"Good farm?"

"Fa'h."

"Can you raise anything on it?"

"Consid'ble. I jes' raised seventy-five dollahs on it; fohth mortgage, too."—*Washington Post.*

Harry—Are you singing in the choir now?

Howard—No. I have joined the church.—*Kearney Enterprise.*

"It must have been dreadfully hard to wear these old coats of armor."

"Yes; they have the appearance of hardware."—*Harper's Bazar.*

Young Medical Student (to his sweetheart)—Do you know, Julia, that the human heart is equal to the lifting of 120 pounds every 24 hours?

Julia (demurely)—Well, that's just my weight.—*Grand Rapids News.*

"May I inquire your occupation?" asked the doctor.

"I am a clerk on a salary of $47.50 a month."

"Your ailment, sir," said the doctor, with decision, "is not gout. It is simply an aggravated case of ingrowing toenail."—*Chicago Tribune.*

"Did you ever call upon Dr. Banquet, professionally?"

"Yes, once. I was drowning."

"Drowning?"

"Yes. He diagnosticated my case on the instant and wrote a prescription on a chip which he threw into the water where I could get it."

"What was the prescription?"

"R; Swim."—*Life.*

Mistress (kindly)—Jane, I hear you have been seen in the park with my husband.

Jane (defiantly)—Yes, ma'am; I have.

Mistress (still more kindly)—Well, Jane, you are a good girl, and I dislike to lose you, but I cannot have any one about the house who keeps bad company.—*New Haven Nutmegs.*

Newly accepted suitor—Well, Bobby, you will have a new uncle soon: I am your Aunt Mary's choice for a husband.

Bobby (surprised)—Well, that's strange. I heard her tell mamma only yesterday that you were Hobson's choice.—*Life.*

Patient (one of the 400)—Doctor, is this complaint—la grippe, I think you call it—prevalent among the—aw—the masses?

Physician—It is. More than half the patients I am treating for it are working people.

Patient—Doctor, you will please treat me for an ordinary cold.—*Chicago Tribune.*

Mrs. Figg—Why don't you marry Mollie Morris? I am sure she likes you.

Mr. Grum—She giggles too much. I hate a woman who is always laughing.

Mrs. Figg—Oh, I guess she would get entirely over that if you were to marry her.—*Terre Haute Express.*

Drink, and the world drinks with you; swear off, and you swear alone.—*Philadelphia Inquirer.*

Not His Busy Season.

Lady (to tramp)—I should think you'd go to work. Can't you find anything to do?

Tramp—Not in my line, madam.

Lady—What is your business?

Tramp—Putting mosquito screens on windows.

SOUTH AFRICA'S GOLD CENTRE.

The Wonderful Town of Johannesburg That Has Grown Up in a Day.

KIMBERLEY, Dec. 16.—Johannesburg is reached by a coach journey from Kimberley of more than 300 miles. The coach service is in the hands of two contractors, and is an excellent service. The coaches used are after the Cobb pattern, each coach carrying twelve inside and from six to nine outside passengers, besides mails and luggage. They run daily, completing the journey in three days and two nights, and are usually full of passengers both on the up and down journey. The fare either way is £12 12s., which with the additional charges for extra luggage, twenty-five pounds only being allowed, and extra charged at the rate of a penny per pound, and the charges for the mails, leaves a very handsome profit for the contractors. The coaches are dragged by horses or mules, and finer cattle are not to be found in this colony than those employed in this service. Fresh horses are taken on every hour or hour and a half, and the teams run only one stage per day, thus giving them every chance of being kept in good condition. The roads in dry weather are good and easily traversed. After rain they are in some parts heavy. The country through which they travel is in the highest degree monotonous, not a tree nor a bush, not a river nor a hill, to be seen for miles, except when some old farm house stands out from the surrounding bareness with a circle of drooping willows around it. There are only two places of importance on the whole route—Klerksdorp and Potchefstrom. The former consists of an old village with a few scattered houses covered by clumps of trees, and a new township, which is the growth of a day and has sprung up in consequence of the gold discoveries recently made there. Already several pretentious stone houses have been erected. A neat and commodious Exchange occupies a prominent site. Churches, schools, and a Court House are in course of construction, and several large and commodious hotels offer accommodation to the chance traveller. The chief hotel, called the Palace, would do credit to many an older established town. At this hotel the coach stops to rest the passengers for the night, and, as a result of the enormous traffic passing through the Transvaal, it is difficult to get a bed.

The town of Potchefstrom was the old capital of the Transvaal and was the seat of Government until it was removed to Pretoria. Like all Dutch towns of old standing the houses are built in the midst of lovely gardens thickly planted with trees, which also grow luxuriantly in the roadways and lend a charm and a freshness to the scene quite exhilarating to those who have been journeying for hours on the bare veldt. This town, too, has felt the influence of the gold fever. Gold fields have been discovered in its neighborhood, and in consequence the town is full of prospectors, diggers, and speculators, ready to pick up the first good thing they can find. Between Potchefstrom and Johannesburg there is nothing worthy of note. As one approaches the latter city the face of the country undergoes a gradual change, becoming more undulating and hilly, till all at once the famous El Dorado bursts upon the view, stretching along the base of a low ridge of hills, along whose sides the smoking funnels betray the busy work that is going on in unearthing golden treasures.

The city of Johannesburg is a surprise to all. One hears often its praises sung and its streets and buildings pronounced indescribable, but this is set down to exaggeration arising out of the enthusiasm of the speakers. No one expects to find broad and regular streets, with noble piles of buildings erected on both sides—buildings and streets rivalling in size and style of architecture those of some of the chief towns of England. The principal business street, Commissioner street, extends for nearly two miles. It contains some of the finest buildings of the city—the new club, the Bank of Africa, the new Exchange buildings, two large hotels, and several two and three-storied erections occupying whole blocks and intended solely for business premises and for offices for the hundreds of brokers and speculators who find occupation there. All the empty spaces are being rapidly filled up with buildings of brick and stone, and the chief sound that is heard above the shouting of the brokers on 'Change is the noise of the bricklayer's trowel and the clink of the stonecutter's chisel. The town proper is almost entirely occupied with business premises; the inhabitants have had to betake themselves to the outskirts to find suitable residences. Consequently, on the slopes of the hills on one side and at the extremities of the city, several townships have sprung up. The principal of these is Doornfontein, an estate belonging to the water company, which has been artistically laid out in allotments, on which substantial and picturesque residences have been erected, and this forms the Belgravia of Johannesburg.

The city boasts an existence of only two and a half or three years, and already it possesses an ample supply of water laid on by pipes in the houses and conducted through the principal streets from the reservoir on the hill above Doornfontein, to which it is pumped up from several springs at a considerable distance from each other in the lower lands. As yet the streets are in darkness at night, depending for light on the oil lamps of the host of canteens to be found in every street. But a gas company has been formed. Gas works are in course of erection, and by the end of another six months it is fully expected that the town will be brilliantly lighted in all its streets. This company has secured, on favorable terms, the lease, with the option of purchase, of a coal mine, the coal from which is said to be equal to some of the best English gas coal.

One of the principal features of Johannesburg is the number of large open spaces that have been provided for market squares and recreation grounds. The principal of these is in the centre of the city. This forms the market square proper. Every morning it is filled with ox wagons laden with produce, which the farmers bring in from all parts of the Transvaal, and even from Natal, the Cape Colony, and the Free State, to be sold to the highest bidder. The market house, a large brick building, covers the centre of this square, consisting of the market house proper, a large hall about 200 feet long and 100 feet broad, and surrounded by coffee and beer stalls.

The market is conducted by a company, and nothing can better show the rapid growth of the town and the enormous increase of the population than the extraordinary increase of the revenue this company derives from the daily sales on the market. Fourteen months ago the company obtained a concession from the Government for five years of a small plot of ground in the centre of the square. A company was floated with a capital of £18,000 to build market houses. This they did, and their success has been so great that during twelve months they earned a dividend of 80 per cent. Last month a dividend of 7½ per cent. was declared, and this month a dividend of 10 per cent. is expected, which may easily be accounted for, when it is seen that the total sales have increased in one year from £18,410 to £57,000 per month.

The Government has again been approached, and an extension of the term of the concession from five years to ninety-nine years has been arranged. The Government has besides granted free a larger piece of ground than that on which the market building now stands on condition that the old buildings be removed and more commodious ones erected in their place at a cost of not less than £40,000.

All the material used in the buildings, all the doors and windows, the wood and the iron have been imported from England and America, and have been transported on ox wagons over 300 miles before reaching their destination. The price of labor is higher than in any other part of the world, and many difficulties have had to be overcome before a brick or a stone could be laid in the city. Perhaps the enterprising merchants of New York may also see that there is here a vast field for trade, and those who are experienced in the art of mining will also find that there is plenty of scope for their genius in a field where over 200 gold companies have been floated, and many of them are at a low financial ebb, through the want of men of skill to deal with the refractory ores that are being met with at increasing depths from the surface.

The cost of travelling from the sea coast to the gold fields is not more than £20, and, with the exception of house rent, living is as cheap there as in any other part of the world.